

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Currently Amended) A data recording and reproducing apparatus comprising:
a plurality of RAID for recording and/or reproducing data containing video and/or audio data, each RAID having a plurality of HDD and a LAN interface;
an error-correcting RAID for recording and reproducing an error-correcting code, having a plurality of HDD and said LAN interface; and
a plurality of input and output processing means connected to said plurality of RAID and said error-correcting RAID through said LAN for processing said data inputted from the outside to output processed data to said RAID in a time-division manner and which process said data outputted from said RAID in a time-division manner to output processed data to the outside,
wherein said plurality of input and output processing means further includes:
input processing means for dividing said data inputted from the outside to transfer divided data to said RAID, for generating an error-correcting code of said data, and for transferring said error-correcting code to said error-correcting RAID; and
output processing means for correcting erroneous data by using said error-correcting code outputted from said error-correcting RAID, and for outputting error-corrected data to the outside if an error is detected from said data outputted from said RAID,

wherein said error is detected based on status data, which includes a status of said data and said error-correcting code, that is returned from said RAID to one of the plurality of input and output processing means, and is then added to an error table that includes information regarding an error in the recording and/or reproducing of said data and error-correcting code,

wherein an error is corrected and data is restored by transferring reproduction request commands from the input processing means to each of the RAIDs other than the RAID that has the error, and then using data blocks and parity data that is transferred to the input processing means after being produced each of the RAIDs other than the RAID that has the error to make restored data, and then transferring the restored data from the input processing means to the RAID that has the error.

2. (Previously Presented) A data recording and reproducing apparatus according to claim 1,

wherein said input and output processing means include recording data restoring means for restoring data or an error-correcting code, for requesting said data or said error correcting code from a second RAID, and outputting said restored data or said error-correcting code to said RAID after a trouble in which said data or said error-correcting code cannot be recorded on said RAID had been removed.

3. (Previously Presented) A data recording and reproducing apparatus according to claim 1, wherein said LAN interface is ethernet.

4. (Previously Presented) A data recording and reproducing apparatus according to claim 1, wherein said LAN interface is an IEEE 1394 transmission line.

5. (Previously Presented) A data recording and reproducing apparatus according to claim 1, wherein said LAN interface is a fibre channel.

6. (Currently Amended) A data recording and reproducing method comprising the steps of:

processing data containing video and/or audio data inputted from the outside to output processed data to a plurality of RAID in a time-division manner, each RAID having a plurality of HDD and a LAN interface;

recording and reproducing an error-correcting code on an error-correcting RAID; outputting said reproduced data from said RAIDs in a time-division manner; and processing said outputted data and outputting said processed data to the outside comprising the steps of:

a first step of dividing and outputting said data inputted from the outside to said plurality of RAID from a plurality of input and end-output processing means connected to said RAID by the network interface, generating an error-correcting code of said data and outputting said error-correcting code;

a second step of recording said divided data on said recording medium by a first of said plurality of RAID and recording said error-correcting code on said recording medium by said error-correcting RAID;

a third step of reproducing said data from said recording medium by the first of said plurality of RAID, reproducing said error-correcting code from said recording medium by said error-correcting RAID and outputting said reproduced data and said reproduced error-correcting code in a time-division manner through the LAN interface; and

a fourth step of correcting erroneous data by using said error-correcting code outputted from said error correcting RAID and outputting said error-corrected data to the outside if an error is detected from said data outputted from said error correcting RAID,

wherein said error is detected based on status data, which includes a status of said data and said error correcting code, that is returned from said RAID to one of a plurality of the input and output processing means;

a fifth step of generating an error table that includes information regarding an error in the recording and/or reproducing of said data and said error correcting code,

wherein an error is corrected and data is restored by transferring reproduction request commands from the input processing means to each of the RAIDs other than the RAID that has the error, and then using data blocks and parity data that is transferred to the input processing means after being produced each of the RAIDs other than the RAID that has the error to make restored data, and then transferring the restored data from the input processing means to the RAID that has the error.

7. (Previously Presented) A data recording and reproducing method according to claim 6, wherein said first step further includes a data restoring step of restoring said data or said error-correcting code, for requesting said data or said error correcting code from a RAID, and outputting said restored data or said restored error-correcting code to said RAID after a trouble in

which said data or said error-correcting code cannot be recorded on said RAID had been removed.

8. (Previously Presented) A data recording and reproducing method according to claim 6, wherein said LAN interface line is ethernet.

9. (Previously Presented) A data recording and reproducing method according to claim 6, wherein said LAN interface is an IEEE 1394 transmission line.

10. (Previously Presented) A data recording and reproducing method according to claim 6, wherein said LAN interface is a fibre channel.